



Data Flow Diagram

The Data Flow Diagram is a common, convenient way to represent an information processing application as a series of data flows between application processes and entities. It graphically represents processes as transformations of inputs into outputs by showing a series of application processes connected by the required data flows. During the modeling of the functional requirements, use this deliverable to analyze application processes and data flows at increasing levels of detail by developing levels of

I. IPT Name:		
II. Deliverable Name: Data Flow Diagram		Date Completed:
III. Contact Information		
	Name	Channel Unit
IPT Sponsor		
Channel Task Manager		
CIO Task Manager		
Contractor Task Manager		
IV. Task Order Number:		

Description

A data flow diagrammer will generally support the following components and symbols:

- **Application Process.** An application process, also referred to as a *data process*, shows the transformation of inputs into outputs. It is symbolized by a solid circle, or "bubble," labeled with its descriptive name. This symbol is used throughout the leveled set of Data Flow Diagrams to model data transformations in varying degrees of detail (see below). "Validate Time Sheets" is an example of a process.
- **Data Flow.** A data flow models the movement of data into or out of a process, external entity, or data store. The data flow should be named to reflect the type of data. Arrows are commonly used to show the direction of data flow. "Valid Time Sheets" is an example of a data flow.

A double-headed arc represents bi-directional movement in the form of a dialog. Such a dialog is used to simplify the diagram by packaging two sets of data, a stimulus, and a response, into one flow.

- **Data Store.** A data store depicts a permanent receptacle for data that flows in and out of processes in a Data Flow Diagram. The data store should be named to represent the data being



maintained. Data stores are commonly represented by a broken rectangle; "Deductions" is an example of a data store.

- **External Entity.** An external entity represents a person, department, or other system with which the application being diagrammed must communicate via data flows. The common symbol for an external entity is a shaded box. "Employee" is an example of an external entity.

Unlike a flow chart, a Data Flow Diagram has no designated beginning or end. A leveled set of Data Flow Diagrams can be used to model input/output transformations at varying degrees of detail. At the highest level (context diagram), a single process is used to model the way the entire application deals with its environment. This environment consists of various external entities that provide or receive data from the application.

